

Appl. No. 09/503,022  
Docket No. 14XZ00055 / GEM-0228  
W:\GE-GEMedical\GEM-0228\GEM-0228 ROA of 05-10-2005.doc

### **REMARKS / ARGUMENTS**

On July 6, 2005, Applicant filed a Change of Correspondence Address that included a typographical error to the Application Number. Accordingly, Applicant files along herewith a new Change of Correspondence Address that corrects for the typographical error.

On July 6, 2005, Applicant filed an IDS that included a typographical error to the Application Number. Accordingly, Applicant files along herewith a copy of the same IDS with the typographical error corrected.

#### **Status of Claims**

Claims 1-3 are pending in the application and stand rejected. Applicant has amended Claims 1 and 3, and has added new Claims 4-9, leaving Claims 1-9 for consideration upon entry of the present Amendment.

Applicant respectfully submits that the rejections under 35 U.S.C. §112, second paragraph, and 35 U.S.C. §102(e), have been traversed, that no new matter has been entered, and that the application is in condition for allowance.

#### **Rejections Under 35 U.S.C. §112, Second Paragraph**

Claims 1 and 3 stand rejected for lack of antecedent basis.

Applicant has amended Claims 1 and 3 to correct for the lack of antecedent basis. No new matter has been added as antecedent support may be found in the specification as originally filed.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of all rejections under 35 U.S.C. §112, second paragraph, which Applicant considers to be traversed.

Appl. No. 09/503,022  
Docket No. 14XZ00055 / GEM-0228  
W:\GE-Medical\GEM-0228\GEM-0228 ROA of 05-10-2005.doc

**Rejections Under 35 U.S.C. §102(e)**

Claims 1-3 stand rejected under 35 U.S.C. §102(e) as being anticipated by Florent et al. (U.S. Patent No. 6,430,318, hereinafter Florent).

Applicant traverses this rejection for the following reasons.

Applicant respectfully submits that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, *in a single prior art reference.*” *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). Moreover, “[t]he identical invention must be shown in as complete detail as is contained in the \*\*\* claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Furthermore, the single source must disclose all of the claimed elements “arranged as in the claim.” *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

Notwithstanding the aforementioned amendments to overcome the rejections under 35 U.S.C. §112, second paragraph, Applicant respectfully submits that Florent fails to disclose each and every element of the claimed invention arranged as claimed, and therefore cannot properly be applied for purposes of anticipation. As such, Applicant respectfully submits that the aforementioned amendments were made for purposes of clarifying the lack of antecedent basis and not for reasons relating to patentability for overcoming the alleged anticipation with regard to Florent.

In Claim 1, Applicant recites, inter alia,

“A method of treatment of a sequence of x-ray images of a body, comprising:  
acquiring an image sequence *including a current image and a preceding image, and filtering the current image and the preceding image;*  
elaborating for each acquired current image of a current filtered image *from the acquired current image and from the preceding filtered image;* and

Appl. No. 09/503,022  
Docket No. 14XZ00055 / GEM-0228  
W:\QB-GEMedical\GEM-0228\GEM-0228 ROA of 05-10-2005.doc

visualizing the elaborated and filtered image sequence;

wherein for each acquired current image, a displacement of the current image is determined relative to the acquired preceding image in an image acquisition plane, *a displaced preceding filtered image is elaborated* by spatially displacing the preceding filtered image, taking the displacement of the current image into account, and *the current filtered image is elaborated by a weighted average between* the acquired current image and the displaced preceding filtered image, so as to improve the quality of the images visualized."

Dependent claims inherit all of the limitations of the parent claim.

The Examiner alleges that Florent discloses each and every element of the claimed invention including: "the elaboration for each acquired current image of a current filtered image from the acquired current image *and from the preceding filtered image*" (reference made to Florent at Figure 1 and column 3, lines 9-26) (emphasis added); "*a displaced preceding filtered image is elaborated* by spatially displacing the preceding filtered image" (reference made to Florent at Figure 4b) (emphasis added); and, "*the current filtered image is elaborated by the weighted average* between the acquired current image and the displaced preceding filtered image" (reference made to Florent at column 7, lines 7-28) (emphasis added).

Applicant respectfully disagrees with the Examiner that Florent discloses all that is alleged.

At column 3, lines 9-26, Applicant finds Florent to disclose causal, present, and anti-causal images  $J_{t-1}$ ,  $J_t$ , and  $J_{t+1}$ , all three of which are originally noisy and not previously smoothed in respect to noise peaks, because such smoothing is not necessary for the Florent method that performs complete filtering of the noise itself.

Here, Applicant finds Florent to be absent any disclosure of "*the preceding filtered image*", which is specifically claimed for in the instant invention.

At Figure 4b (and accompanying text in column 5 line 66, through column 6 line 7), Applicant finds Florent to disclose motion of object OBJ, and a determination as to whether certain inputs are "false" or "correct".

Appn. No. 09/503,022  
Docket No. 14X200055 / GEM-0228  
W:\GE-GEMedical\GEM-0228\GEM-0228 ROA of 05-10-2005.doc

Here, Applicant finds Florent not only to be absent any disclosure of "*a displaced preceding filtered image*", but also to be absent any disclosure of the same being "*elaborated by spatially displacing the preceding filtered image*", which are specifically claimed for in the instant invention.

At column 7, lines 7-28, Applicant finds Florent to disclose a median filter 132 where two of four intensities of intermediate value are averaged such that the median filter 132 outputs the median value as its result.

Here, Applicant finds Florent to disclose a median filter that outputs a median value, and not method that involves a *weighted average* as applied to a current *filtered image*.

In view of the foregoing, Applicant submits that Florent lacks disclosure of each and every element of the claimed invention arranged as claimed, and more specifically lacks disclosure of: "*elaborating for each acquired current image of a current filtered image from the acquired current image and from the preceding filtered image...*" wherein for each acquired current image, a displacement of the current image is determined relative to the acquired preceding image in an image acquisition plane, *a displaced preceding filtered image is elaborated* by spatially displacing the preceding filtered image, taking the displacement of the current image into account, and *the current filtered image is elaborated by a weighted average between* the acquired current image and the displaced preceding filtered image, so as to improve the quality of the images visualized."

Accordingly, Applicant submits that Florent does not disclose all of the claimed elements arranged as in the claim, and absent anticipatory disclosure in Florent of each and every element of the claimed invention arranged as in the claim, Florent cannot be anticipatory.

In view of the foregoing remarks, Applicant submits that Florent does not disclose each and every element of the claimed invention arranged as claimed and therefore cannot be anticipatory. Accordingly, Applicant respectfully submits that the Examiner's

Appl. No. 09/303,022  
Docket No. 14XZ00055 / GEM-0228  
W:\GE-QEMedical\GEM-0228\GEM-0228 ROA of 05-10-2005.doc

rejection under 35 U.S.C. §102(e) has been traversed, and requests that the Examiner reconsider and withdraw of this rejection.

**Regarding New Claims 4-9**

Applicant has added new Claims 4-9, which depend from Claim 1, and which include additional limitations that describe additional subject matter regarded as the invention.

No new matter has been added as antecedent support may be found in the specification as originally filed, such as at Page 4, lines 13-22, for example.

In view of the previous discussion relating to Claim 1, Applicant respectfully submits that Florent does not disclose, teach or suggest the claimed invention of new Claims 4-9, and does not motivate one to arrive at the claimed invention.

Accordingly, Applicant submits that new Claims 4-9 is directed to allowable subject matter and respectfully requests entry and notice of allowance thereof.

In light of the foregoing, Applicant respectfully submits that the Examiner's rejections under 35 U.S.C. §112, second paragraph, and 35 U.S.C. §102(e), have been traversed, and respectfully requests that the Examiner reconsider and withdraw these rejections.

Appl. No. 09/503,022  
Docket No. 14X200055 / GEM-0228  
W:\GE-GEMedical\GEM-0228\GEM-0228 ROA of 05-10-2005.doc

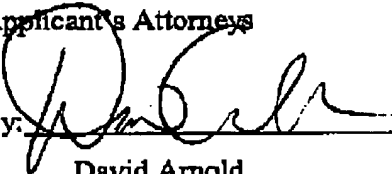
The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 50-2513.

In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above identified Deposit Account.

Respectfully submitted,

CANTOR COLBURN LLP

Applicant's Attorneys

By: 

David Arnold  
Registration No: 48,894  
Customer No. 23413

Address: 55 Griffin Road South, Bloomfield, Connecticut 06002  
Telephone: (860) 286-2929  
Fax: (860) 286-0115